

NOAA RESPONSE TO SAB REPORT ON CMSP

November 10, 2011

NOAA thanks the Science Advisory Board (SAB) and its Ecosystem Science and Management Working Group (ESMWG) for your thorough analysis and recommendations on advancing Coastal and Marine Spatial Planning (CMSP) in U.S. waters. The SAB's timely report, "Strategic Advice on Designing and Implementing Coastal and Marine Spatial Plans", draws upon worldwide examples of CMSP to provide insight into one of the nation's most pressing environmental challenges: empowering coastal communities to shape the future of their oceans in a time when resources are increasingly constrained and human uses are expanding faster than our ability to effectively plan and manage them.

The ESMWG report provides 23 individual recommendations to NOAA and the National Ocean Council (NOC) relating to implementing CMSP. These are grouped into seven categories central to the development of CMSP: (i) objectives; (ii) scope; (iii) authority; (iv) participants; (v) data; (vi) decision support; and, (vii) performance measures. These seven categories are further combined and synthesized in the June 13, 2011 transmittal letter into five core recommendations for which the SAB seeks a response.

NOAA is committed to the success of the National Ocean Policy and will continue to play a key leadership role in implementing the Framework for Effective CMSP in U.S. waters, as articulated in the Final Recommendations of the Interagency Ocean Policy Task Force and Executive Order 13547 of July 19, 2010. Reflecting that commitment, this letter conveys NOAA's formal reply to the SAB's May 2, 2011 report on CMSP. It provides:

- A summary of the evolving context for CMSP, both nationally and regionally.
- A summary of NOAA's ongoing role and engagement in CMSP at multiple levels.
- NOAA's general responses to the SAB's five core issues and recommendations articulated in the transmittal letter of June 13, 2011.
- Attachment 1: NOAA specific responses to each of the ESMWG's 23 individual recommendations in the May 2, 2011 report.
- Attachment 2: Relevant citations from the CMSP Framework and Executive Order 13547 for issues relevant to specific SAB recommendations.

1. Evolving National and Regional Context for CMSP Context

In July 2010, President Obama signed Executive Order 13547 establishing the National Policy for the Stewardship of the Ocean, Our Coasts, and the Great Lakes (National Ocean Policy or NOP), including the Framework for Effective Coastal and Marine Spatial Planning. The National Ocean Council (NOC), charged with implementation of this NOP, was convened in November 2010 and is now coordinating an integrated federal approach to ocean planning. Summarized below are some of key developments at the NOC level that have paralleled the ESMWG's development of the recommendations contained in the SAB report. Individually and collectively these issues pose both opportunities and challenges to the implementation of the CMSP Framework at the national and regional levels.

National Ocean Council (NOC)

Governance – Convened in November 2010, the NOC comprises 26 federal entities involved in ocean management in the U.S. Both NOAA and the Department of Commerce have seats on the NOC. The NOC is assisted by various interagency committees and working groups, by the Governance Coordinating Committee (GCC) which provides a formal mechanism for input from states, local, and tribal agencies, and by the Ocean Research Advisory Panel (ORAP). The NOC, with input from the GCC and ORAP, will set national-level policies, guidance, criteria, and strategies for the overall approach to CMSP.

National CMSP Workshop – In June 2011, the NOC convened a national CMSP workshop to give stakeholders, agencies, and the public additional opportunities to understand and shape the national and regional CMSP processes. A specific milestone called for in the Framework (page 72), the national CMSP workshop provided a forum to directly engage Federal, State, and tribal representatives, to give an overview of CMSP and the national framework; to hear regional perspectives; and to conduct CMSP simulation exercises that would promote critical discussion amongst participants. Consistent themes emerging during the workshop included the need for regional flexibility in the scope, scale and sequence of the CMSP process, and the need for meaningful and sustained engagement with key stakeholders across the region. Input and lessons learned from that successful gathering are being incorporated into the draft CMSP Strategic Action Plan (SAP) and other NOC guidance documents.

CMSP Strategic Action Plan (SAP) – The NOC is currently coordinating the development of SAPs for each of the nine priority objectives. A specific milestone in the Framework, the CMSP SAP and related guidance, will address many of the issues raised in the SAB’s 23 recommendations. Public input on the draft Content Outline released in the summer of 2011 is currently being incorporated into the draft CMSP SAP. Once finalized, the CMSP SAP and associated guidance will provide information and tools supporting a range of actions addressed by the SAB report, from establishing the Regional Planning Bodies (RPBs), to assessing regional capacity and ecosystem trends, to engaging stakeholders.

Regional Planning Bodies (RPBs) – With guidance from the NOC, and building upon existing state led Regional Ocean Partnerships (ROPs) and other regional initiatives, the regions will soon begin to organize to develop comprehensive CMS plans. Federal representatives have been identified for each of the nine RPBs and Federal co-Leads are being finalized by the NOC. It is expected that NOAA will serve as the Federal co-Lead in three of the nine regions (Northeast, West Coast, and Pacific Islands). Additional guidance is also being prepared by the NOC, based on input from the GCC, to aid States and Tribes in identifying their membership to the RPBs. The regions are beginning to scope out their specific approach to developing regional and sub-regional CMS plans, including convening regional CMSP workshops. Toward that end, NOAA is finalizing competitive grant awards to support ROPs and planning in several US regions. Funded through NOAA’s FY2011 appropriations, the ROP competitive grants program is intended to provide needed resources to states and partner institutions collaborating on aspects of implementing the NOP, CMSP and regional priorities.

National Information Management System (ocean.data.gov) – As called for in the CMSP Framework, the NOC agencies are developing a prototype data portal to help inform regional CMSP and other forms of place-based ocean management. Located at ocean.data.gov and set to

be released in late 2011, this initial prototype portal will provide access to key data sets, decision support tools, technical guidance and a community of practice for RPBs and interested stakeholders. The national portal will be integrated with emerging regional data portals containing information compiled by and for the RPBs to their specific and unique issues and needs.

Other Influential Trends

Independent CMSP Efforts – During the development of the NOP, several states have completed, initiated or begun marine spatial planning processes in state waters (e.g. Rhode Island, Massachusetts, California, Oregon, and Washington). While these efforts vary widely in objectives, scales, approaches and outcomes, all share important commonalities with, and could contribute to, the comprehensive regional spatial planning process envisioned by the CMSP Framework. Integrating these efforts across scales and sectors, and building upon their lessons learned, will be key to effective regional CMSP implementation.

Smart From The Start – In parallel with the establishment of the NOP, the Department of the Interior announced an innovative new spatial planning initiative focused exclusively on a single sector: the siting of renewable energy operations off the US coast. This fast-paced and nationally significant planning process involves many of the spatial data, decision support tools and stakeholder engagements similar to those that would underpin a successful regional CMSP effort. Handled creatively and coordinated closely, the Smart From The Start initiative can provide key information for CMSP, especially in the compilation and use of spatial data to understand trade-offs among potentially competing uses such as energy production and fishing.

Need for Regional Flexibility – One of the most clear and compelling messages emerging from the national CMSP workshop was the need for RPBs to have considerable flexibility in how and when they pursue the CMSP process. Stakeholders and agency representatives repeatedly highlighted the desire for a flexible approach to the scale, scope, pace and methods for CMSP reflecting the unique challenges and needs of each region. The trend toward flexible regional approaches is reflected in the emerging NOC draft SAP and associated guidance which is being designed to give deference to the regions in structuring their CMSP process. As a result, it is likely that NOAA and the NOC will play a more supportive and consultative role in guiding regional planning, rather than directly setting and enforcing regional policies and protocols. This translates to NOAA and other NOC agencies leveraging existing capabilities to provide needed data, products, models and tools to support RPBs in conducting effective CMSP.

Federal Funding for CMSP – The NOP addresses a crucial and pressing need for a cohesive approach to managing the nation's increasingly threatened oceans. This historic and long-needed endeavor has, however, coincided with an unprecedented period of fiscal constraint and uncertainty. NOAA remains committed to maintaining its science, products and services under its existing mandates while at the same time advancing the NOP and CMSP which complement and support NOAA's missions. In order to do this near-term efforts will focus on leveraging existing resources, authorities and capacities for place-based science and management toward multiple objectives, including CMSP.

2. NOAA's Continued Role in CMSP

As the nation's lead ocean agency, NOAA continues to play an active leadership role in CMSP at the national and regional levels. NOAA's commitment to CMSP is reflected in many substantive actions that, combined, will help advance the goals of the NOP regardless of the temporary constraints we now face. In so doing, NOAA also advances its own independent, diverse and long-standing mandates and programs for place-based management of the nation's most vital ocean resources. To this end, NOAA will continue to integrate data, provide mapping capabilities and develop analytical tools that together, create a baseline of information for better decision making at the local, state and federal level. Bringing together all of the information in advance of actually having to make a decision will help create a more streamlined, efficient decision making process in many aspects of place-based ocean management, not just CMSP.

National Ocean Council Engagement

- NOAA will continue to provide leadership and staff support to the NOC and its interagency committees, subcommittees and working groups.
- NOAA will continue to play key roles in crafting foundational concepts, policies, guidance and plans that advance the aims of the NOP.
- NOAA will continue helping to lead the Interagency Working Group to design and implement the prototype portal for data, tools and guidance on regional CMSP.

Interactions With Regional Planning Bodies (RPBs)

- NOAA has identified senior regional staff to serve as federal co-lead for three key CMSP regions (Northeast, West Coast and Pacific Islands).
- NOAA continues to actively support Regional Ocean Partnerships with capacity building and technical support.
- Pending receipt of appropriated funds, NOAA will continue to coordinate the Regional Ocean Partnership competitive grants program to support regional, state and tribal regional ocean governance efforts.
- NOAA will continue to coordinate regional activities through its CMSP Regional Team, which reaches across the agency to integrate regional activities on CMSP and support the needs of the region's as they undertake CMSP.

Internal NOAA Programs and Capabilities

- NOAA continues to make unprecedented progress in integrating NOAA geospatial data sets relevant to CMSP in an innovative data registry that combines critical information from across the agency needed to create and implement regional CMS plans.
- NOAA is actively engaging partners and responding to requests to incorporate CMSP themes and priorities into ongoing coastal stewardship efforts at the state level, including coastal zone management and Sea Grant programs.
- NOAA continues to integrate CMSP principles into the planning and execution of its diverse place-based management programs such as National Marine Sanctuaries, US Integrated Ocean Observing Systems, Coastal Zone Management, and Protected Resources.
- NOAA continues to ensure that the agency's diverse scientific, analytical and technical capabilities address CMSP priorities. Examples of this include biogeographic mapping and analysis recently undertaken by NOAA's National Center for Ocean and Coastal

Science for states in the Northeast and Pacific Northwest, and the participatory mapping of ocean uses in New England, California and Hawai'i by NOAA's Office of Ocean and Coastal Resource Management.

Clearly, NOAA is fully and substantively engaged in the development of the policy, science and processes underlying CMSP in the U.S. CMSP principles and goals are infused throughout the agency's broad mandates and programs. Looking ahead, NOAA will continue to play a variety of key roles in CMSP as it unfolds in the regions.

In the context of the SAB report however, it is important to understand that NOAA is one of several federal agencies involved in implementing the NOP. The NOC sets the overall policies and directions, which are then implemented individually by member agencies using existing authorities. Consequently, many of the recommendations provided by the ESMWG, while certainly relevant to NOAA and consistent with our aims, more appropriately fall within the purview of either: (a) the NOC, which is responsible for higher-level policy issues, oversight and guidance for CMSP; or, (b) the nine RPBs, which will be responsible for conducting regional assessments, setting regional objectives, creating mechanisms to engage stakeholders, analyzing the implications of future ocean use scenarios, and evaluating the effectiveness of the regional CMS plans over time. Therefore, while NOAA will continue to actively contribute to those wider efforts, we cannot always act alone. Consequently, in many cases, while NOAA agrees with the aims of the recommendations, our role in implementing them may vary widely depending on the situation.

3. NOAA Response to SAB's Overarching Issues and Recommendations

Following are the NOAA responses to the higher-level core recommendations highlighted by the Science Advisory Board in the June 13, 2011 transmittal letter to Dr. Lubchenco.

SAB Core Recommendation #1. NOAA and NOC should support the development of regional science and stakeholder teams that can help develop operational objectives (with indicators and reference levels) early in the CMSP process.

NOAA Response: NOAA agrees that structured input from experts and stakeholders will ensure that RPBs craft and achieve practical, measurable and operational objectives for CMSP. The CMSP Framework places high priority on engaging regional interests in setting critical objectives early in the planning process. The CMSP SAP and associated guidance will provide national objectives and examples, methods and information to assist regions as they develop their own regional objectives that include metrics and outcomes. The Framework articulates that establishing various advisory bodies (e.g. scientists, stakeholders) is the purview of the RPBs and identifies several possible mechanisms. RPBs may create formal Regional Advisory Committees or rely on other mechanisms to ensure meaningful and sustained community input throughout the planning process. In addition, it will be prudent to explore local and regional opportunities to leverage existing NOAA programs that are regionally engaged in ocean and coastal science and stewardship – including US IOOS, NOAA Fisheries, and others – to ensure efficient and successful coordination across the key stakeholder communities. NOAA will continue to be actively involved in engaging the scientific and stakeholder communities in the regional CMSP processes.

SAB Core Recommendation #2. Prior to funding, NOAA and NOC should require a work plan and clear timeline with benchmarks for all phases of the CMSP effort. In particular, timelines should be set and adhered to for data gathering and compilation to allow sufficient time in the planning effort for analysis and decision making.

NOAA Response: NOAA agrees with the importance of clear and realistic timelines that ensure that decisions are based on sound science. The CMSP Framework calls for specific work plans and timelines to be developed by the RPBs and reviewed by the NOC. It also acknowledges that the options for acquiring and using scientific information will likely vary widely among regions differing in issues, needs and capacities. In practice, decisions about when and how to use scientific information and tools are largely deferred to the regions. Additionally, the SAP and associated guidance will provide relevant information to assist regions and future funding decisions could provide incentives for structured processes.

SAB Core Recommendation #3. NOAA and NOC should provide basic guidance to regions on stakeholder roles, responsibilities, and engagement strategies. These should be defined early in the process to avoid confusion.

NOAA Response: NOAA agrees that sustained and meaningful stakeholder engagement is absolutely essential to successful CMSP. The CMSP Framework highlights its importance and provides the RPBs the flexibility to design approaches appropriate to their region's needs. These strategies may range from informal consultations, to standing working groups, to formal Regional Advisory Committees. The NOC is preparing guidance and information on best practices for stakeholder engagement as part of the SAP process.

SAB Core Recommendation #4. NOAA and the NOC should provide guidance on best practices for the use of decision-support tools; there is a growing body of lessons learned and best practices available from recent planning efforts. NOAA and the NOC should support the development of decision-support tools and, in particular, the connections among tools; most plans used more than one tool. NOAA and the NOC should support the development of more explicit trade-off analysis tools.

NOAA Response: NOAA agrees. Working with the NOC agencies, NOAA has helped design and develop the prototype national data portal (ocean.data.gov) for CMSP and other forms of place-based ocean management. The national portal will soon contain relevant data sets and mapping services, as well as links to useful decision support tools (DSTs) and relevant technical guidance on their application, strengths and weaknesses for different purposes in support of CMSP and regional planning efforts. In addition, NOAA's internal CMSP Data and Tools team has compiled and synthesized information on the existing suite of DSTs available for various aspects of CMSP. The Data and Tools team is rating the analytical capabilities of existing DSTs to identify specific CMSP focused functions and features that are not currently served by existing DSTs. The team is also compiling a series of case studies to illustrate how various DSTs have been combined in sequence to meet CMSP needs. Representative examples of NOAA DSTs that are particularly applicable to CMSP include the Multipurpose Marine Cadastre (MMC) that is currently supporting the Smart From The Start

initiative well as other regional information management applications, Integrated Ecosystem Assessments, capabilities emerging regionally and nationally at U.S. IOOS, and the Environmental Response Management Applications (ERMA). Information on these DSTs and others will be made available publicly via the national portal and will guide NOAA's ongoing efforts working with external partners to strengthen existing the utility and interoperability of existing tools and develop new ones as needed to fill specific analytical gaps.

SAB Issue #5. NOAA and the NOC should require plans to explicitly identify formal metrics of success including metrics for social and economic outcomes. NOAA and the NOC should identify permitting time and costs as useful metrics for gauging the results of CMSP efforts; they should undertake efforts now to gather information on some current permitting times and costs ahead of regional CMSP efforts. This action would clearly indicate to stakeholders that CMSP aims to address economic concerns in addition to ecological ones.

NOAA Response: NOAA agrees that it will be critical for CMS plans to contain explicit and measurable objectives with clearly articulated metrics for assessing effectiveness over time. Identification of opportunities to promote permitting efficiencies is clearly a practical starting point for measuring progress towards CMSP outcomes related to cost and time savings. Other socioeconomic metrics, however, are considerably more complex and are often subject to external factors beyond the CMSP process. In order to pursue such metrics it will likely require additional research and use of tiered milestones. As called for in the NOP, the draft CMSP SAP and associated guidance will contain national level objectives and performance measures to track progress at the federal level in both socioeconomic and ecological terms. These national objectives will be used to inform the RPBs as they design and set their own regional specific objectives and metrics to measure their success.

Conclusion

NOAA very much appreciates the thoughtful analysis and insights shared by the SAB's ESMWG on these timely and complex issues. An essential component of the new NOP, CMSP represents a practical, objective and transparent way to empower coastal communities to shape the future of their oceans.

We look forward to working with the SAB to advance these ideas further.

ATTACHMENT 1

NOAA Response to 23 Individual Recommendations from SAB's ESMWG

Following are the report's findings and NOAA's responses to the 23 individual recommendations comprising the SAB's 7 theme areas.

A. Objectives

ESMWG Findings:

(A1). In general, the objectives of coastal and marine spatial planning do not differ from those of Ecosystem Based Management (EBM), except that the objectives of CMSP may be spatially explicit whereas those of EBM may or may not be.

(A2). The majority of plans started with largely conceptual objectives (e.g., conserve diversity, sustain fisheries). During the planning process, these objectives were made more operational and spatially explicit, often with the help of an independent panel of experts. The development of increasingly operational objectives, with indicators and reference levels, is a critical part of the planning process and fundamental to identifying outcomes and trade-offs.

ESMWG Recommendations:

(A1). NOAA and the NOC should facilitate the crafting of clear objectives and identify a clear process to produce them (e.g., Gleason et al. 2010);

NOAA Response: NOAA agrees that setting objectives is vital to successful CMSP. To that end, the Framework calls for each Regional Planning Body (RPB) to craft "a set of specific and measurable regional objectives that provide clear direction, outcomes, and timeframes for completion" (Attachment 2). The Framework, Executive Order (EO) and draft Strategic Action Plan (SAP) identify objective setting as one of the first steps in the regional planning process. Each RPB will design and execute a participatory process to engage regional stakeholders and agencies in crafting CMSP objectives that will guide both the development and implementation of the resulting plan.

(A2). NOAA and the NOC should support the development of regional science and stakeholder teams that can help develop operational objectives and data needs early in the CMSP process;

NOAA Response: NOAA agrees that tapping into regional expertise and stakeholder insight is essential to developing a meaningful and effective CMS plan. The Framework calls for RPBs to "establish regional scientific participation and consultation mechanisms to ensure that the regional planning body obtains relevant information." Similarly, the Framework, EO and draft SAP highlight the critical role of meaningful and sustained

stakeholder engagement and provide options to the RPBs including the establishment of formal Regional Advisory Committees representing the diversity of interests in regional ocean issues (Attachment 2).

(A3). NOAA and the NOC should facilitate the development of operational objectives with indicators and reference levels as part of the regional planning process.

NOAA Response: NOAA agrees that, to be effective, regional CMSP objectives must be sufficiently clear, measurable and spatially explicit to enable future management actions consistent with the aims of the CMS plan. The Framework defers to the RPBs decisions about how explicit the resulting CMS plan will be, and thus the degree to which individual objectives are “operational” as articulated in the plan (Attachment 2). The draft CMSP SAP also provides national CMSP objectives and performance measures, and emphasizes the critical importance of defining clear, achievable, measurable and spatially explicit objectives that can then guide future spatial management decisions by ocean agencies with jurisdiction within the planning region.

B. Scope

ESMWG Findings:

(B1). Most of the plans were developed with the intent to consider all uses, but few were truly comprehensive.

(B2). Plan development took from 1.5 – 29 years. The majority of plans were developed fairly recently (after 2002) and were usually completed in 2 years.

(B3). Plan revision intervals vary, but most plans have a planning interval from 2 to 5 years.

(B4). Federal and state governments funded the majority of the plans. Some plans were funded by a combination of governmental, private, and non-profit sources.

(B5). Typical costs were on the order of \$US 1 million per year.

(B6). Spatial scale of the plans varied greatly. The majority of plans are at scales smaller than the ecosystem scale (as defined by Large Marine Ecosystems). The efforts that are larger or equal to ecosystem-scale, which are mainly national frameworks, are subdivided into smaller regions for the main planning efforts. In many efforts, planning and implementation was done at sub-regional scales. The US CMSP program’s regional planning areas are larger than most of the existing spatial plans.

ESMWG Recommendations:

(B1). NOAA and the NOC should recognize the trade-offs between costs and comprehensiveness.

NOAA Response: As envisioned by the Framework, CMSP is a comprehensive, integrated approach to spatial planning across all major sectors and ocean uses in the planning region. NOAA recognizes that the complexity, duration and cost of the regional CMSP effort will need to be proportional to the breadth of sectors, uses and objectives it is intended to address. However, it is precisely the multi-sectoral scope of CMSP that makes it a timely and necessary response to the growing challenges of ocean management which are increasingly overwhelming traditional approaches focused on a more limited suite of sectors and objectives. The Framework, EO and draft SAP provide guidance for a regional planning process that can be scaled to meet multiple objectives, while relying heavily on existing information, user-friendly decision support tools, and flexible, adaptive management (Attachment 2). Combined, these traits can enable a science-based planning process that is effective, expeditious and inclusive.

(B2). Once regions make decisions about the number of objectives and planning areas, NOAA and the NOC should support robust and thorough data collection and stakeholder engagement across the selected scope even if these steps are especially demanding of time and resources.

NOAA Response: As the nation's principle ocean science agency, NOAA agrees that a strong scientific foundation is critical to successful CMSP. Moreover, the fundamental role of science is highlighted throughout the Framework, EO and draft SAP (Attachment 2). To this end, the Framework calls on RPBs to "identify and leverage existing approaches and efforts to collect information as well as clearly identify where there are gaps in data and information and what assumptions are made in the assessments, forecasts, and analyses to 'compensate' for lack of information and data." Each RPB will conduct an initial assessment of the region's information needs for CMSP and its capacities to meet them. Critical data gaps (e.g. patterns of existing and emerging ocean uses) will be identified and strategies developed to fill them.

NOAA has established technical teams to evaluate and strengthen the scientific foundation for three key components of CMSP: ecosystems, ocean uses and data and tools. Working across the entire agency, NOAA will continue to integrate data, provide mapping capabilities and develop analytical tools that together, create a baseline of information for better decision making at the local, state and federal level.

Similarly, mechanisms for engaging stakeholders in meaningful and constructive ways will be developed and implemented by RPBs, with guidance and support from the NOC (Attachment 2). To this end, the RPBs will "ensure there is frequent and regular stakeholder engagement throughout all phases of the CMSP process, including development, adoption, implementation, evaluation, and adaptive management phases."

(B3). NOAA and the NOC should investigate a variety of different opportunities to support plan development and implementation and should engage private and non-profit organizations.

NOAA Response: NOAA agrees that, in this resource constrained environment, it is essential to take flexible and creative approaches to developing and implementing regional CMS plans. The Framework, EO and draft SAP provide that latitude to each RPB, within the bounds of national goals, objectives and criteria (Attachment 2). Further, NOAA strongly supports forging strong public-private partnerships to meet the daunting challenge of acquiring, analyzing and applying natural and social science information about regional ecosystems and their human uses to inform and execute CMS plans. To this end, the NOC agencies should collaborate quickly on crafting a strategy to facilitate public-private and inter-governmental partnerships to leverage information and resources in time to help support regional CMS planning.

(B4). The US planning regions are large compared with existing marine spatial plans; NOAA and the NOC should be supportive of sub-regional planning efforts.

NOAA Response: NOAA agrees. The Framework, EO and draft SAP acknowledge this important scaling issue (Attachment 2) and provide RPBs the flexibility to develop CMS plans at the sub-regional scale (e.g. individual states). This approach, while both realistic and expedient, will require additional guidance and consideration by the NOC to ensure an appropriate level of consistency in methods and outcomes among adjacent sub-regional plans.

C. Authority

ESMWG Findings:

(C1). The legal basis of plans varied and included international, federal, and state driven plans.

(C2). A legal basis is a necessary but not sufficient condition for success of a plan. Plans that did not have a legal basis have not yet been implemented.

(C3). No institutional changes were made as part of creating the plans.

(C4). Plans are usually implemented by multiple agencies and often with assistance from outside groups and experts (e.g., advisory groups for monitoring).

(C5). Plans that were completed quickly typically had strict timelines identified in their legal mandates.

ESMWG Recommendations:

(C1). To help ensure the success of CMSP, NOAA and the NOC should strive to increase the strength of the CMSP legal mandate.

NOAA Response: The Framework, EO, and draft SAP clearly state that federal, state, and tribal agencies will collaboratively develop regional CMS plans which are then implemented by relevant agencies using their existing, independent authorities in a manner consistent with the plan (Attachment 2). Only federal agencies are required to participate through the EO. State and tribal participation is strongly encouraged but not mandatory. No new authorities or regulations are created as part of the planning process. While it is conceivable that a new statutory authority for comprehensive spatial planning and management would facilitate the regional CMSP effort, existing authorities and mandates are sufficient to undertake this crucial and time-sensitive national initiative.

(C2). NOAA and the NOC should preferentially support regions that offer clear planning timelines and deadlines.

NOAA Response: The Framework, EO, and draft SAP envision regional CMS planning occurring simultaneously throughout US waters (Attachment 2). However, regional differences in issues, capacities, and interest clearly exist. Consequently, the NOC provides RPBs the flexibility to proceed through the phased planning process at rates, scopes, and scales appropriate to their needs. Potential federal funding, and other in-kind support, will likely be scaled to meet those varying needs, as appropriate.

(C3). NOAA and the NOC should partner with other federal, state, academic, private, and nonprofit agencies and institutions to coordinate the development and implementation of CMSP.

NOAA Response: NOAA agrees. Please see response to Recommendation B3.

D. Data

ESMWG Findings:

(D1). Few of the CMSP efforts have a clear plan or framework for data management and data decision support after the effort is done.

(D2). Data have been used both analytically and illustratively in the planning efforts.

(D3). In all plans there is a strong reliance on qualitative data and expert opinion, with few standards for data inclusion.

(D4). Data have been have been collected across all the disciplines; however biological data are used more frequently and chemical data less frequently than other data types.

(D5) Recently developed plans (in particular those in the US) were completed on 2-year timelines largely with existing data.

(D6) Data compilation and assimilation efforts frequently dominated the initial stages of plan development, in terms of capacity, time and cost, likely to the detriment of the latter stages of the effort when plans are developed and decisions get made.

(D7) There has been a rapid expansion in the development of data portals in the past few years by federal and state agencies, businesses and NGOs. NOAA is supporting numerous portals with few connections between them.

(D8) Some important data on uses (e.g., fishing and energy) are proprietary and identify critical areas for these users.

ESMWG Recommendations:

(D1). NOAA and the NOC should require a clear timeline and work plan for all phases of the MSP effort with benchmarks prior to funding. In particular, timelines should be set and adhered to for data gathering and compilation to allow sufficient time in the planning effort for analysis and decision-making.

NOAA Response: NOAA agrees that effective CMS planning will require adequate time spent initially in gathering relevant existing data, filling key data gaps, and analyzing the information to inform spatial planning decisions. The Framework provides an overall sequence and timeline for such key actions, including assessments of regional capacities, issues, ecosystem trends, and information needs, followed by analysis of future ocean use scenarios (Attachment 2). Those steps are to be articulated in each RPBs work plan, which will be approved by the NOC. The specific duration and complexity of these phases is likely to vary among regions and will be determined by the RPBs, with input from the NOC.

(D2) NOAA and the NOC should recognize and budget sufficient time and capacity for data gathering and compilation.

NOAA Response: As explained in the response to Recommendation D1, the timing and process of data gathering and analysis will be set by the RPBs, in consultation with the NOC. The ultimate success of this endeavor will depend in part on all participants maintaining a disciplined focus on gathering, synthesizing and applying only the most relevant existing data needed for CMSP and on filling only those data gaps most critical for successful analysis of future ocean use scenarios (e.g. patterns of existing and emerging uses). Future regional efforts to augment more general understanding of regional ecosystems can enhance the long-term adaptive management of CMSP.

(D3). NOAA and the NOC should ensure that scientific and technical expertise is available to the CMSP processes at all stages. This expertise should include the development of science advisory boards at the,

- National level - who should evaluate and disseminate technical guidance on elements such as types of data to include and their resolution and how to manage data portals and the connections between them;
- Regional level - to interpret and apply the guidance identified by the national group of experts, refer needs to the national group as they emerge, and address regional scientific and technical issues as appropriate (e.g. decisions on specific data sets).

NOAA Response: NOAA agrees that to be successful, regional CMSP efforts must capitalize on the nation's unparalleled ocean science expertise, both within and beyond the government. The NOC has established several mechanisms to gather expert input at the national level. Chief among them are the Ocean Research Advisory Panel (ORAP) and the NOC's Ocean Science and Technology Interagency Policy Committee (OST-IPC). In addition, many NOC agencies have ongoing efforts to focus internal science capabilities toward the information needs of CMSP (e.g. NOAA, EPA and DOI). The Framework also calls for active consultation and engagement by the RPBs with the regional scientific community, through a variety of formal and informal mechanisms, potentially including a Regional Advisory Committee (Attachment 2). The NOC has also developed the national CMSP data portal (ocean.data.gov) which provides authoritative federal data sets relevant to CMSP and selected using specific criteria and priorities created for this purpose.

(D4) NOAA and NOC should ensure that there is a clearly delineated process for data management after initial regional planning efforts.

NOAA Response: Compiling, managing, and disseminating data on regional ecosystems and their uses will occur at both the national and regional levels. The Framework directs the NOC to create a centralized data portal – the National Information Management System – that will provide core federal data sets for CMS planning around the US. The initial prototype data portal (ocean.data.gov) will be operational in 2011. The NOC is creating an interagency team of data management experts to manage and adapt the national data portal as regional needs evolve. The Framework also empowers RPBs to develop and execute their own data systems and strategies to continually inform the adaptive management of regional CMS plans over time (Attachment 2). NOC agencies are already working actively with regional organizations (NROC and MARCO) to develop and implement long-range data portals.

(D5) NOAA should provide leadership and guidance in ensuring (i) that there is greater connection among its portals and (ii) that efforts are not duplicated among portals it supports.

NOAA Response: NOAA agrees with the importance of integration and lack of duplication among data portals used in CMSP and other spatial planning and management efforts. To this end, NOAA has played a significant leadership role in designing and

creating the NOC's national data portal (ocean.data.gov). As described in the Framework (Attachment 2), the national portal will comprise key federal data sets considered necessary for CMSP. It will link to regional data portals created and managed by the RPBs. Working with other NOC agencies, NOAA will help organize regional science workshops to identify information needs, including the integration and interoperability of regional and national data sets and decision support tools. Part of this effort will focus on minimizing duplication and overlap of existing or planned data portals at all levels.

E. Participants

ESMWG Findings:

(E1). The majority of the plans were facilitated by government agencies, and other stakeholders were included in the planning process in all of the plans except for China's.

(E2). How stakeholders were defined and their participation varied greatly across all plans.

ESMWG Recommendations:

(E1). NOAA and NOC should provide basic guidance to regions on stakeholder roles, responsibilities, and engagement strategies. These should be defined early in the process to avoid confusion.

NOAA Response: The Framework and EO highlight the crucial need for meaningful and sustained stakeholder engagement throughout the CMSP process – from setting regional objectives to implementing and adaptively managing the resulting regional spatial plans (Attachment 2). Consistent with the bottom-up approach in the Framework, considerable deference is given to the RPBs as to what mechanisms are to be used to engage stakeholders. RPBs may choose from a range of options, from informal consultation through meetings and town-halls to the creation of a standing Regional Advisory Committee, potentially with scientific subcommittees or working groups. Engagement processes should be transparent, equitable, and participatory and should be consistent with applicable authorities in the region. To this end, the NOC will make available additional information on stakeholder engagement in regional CMS planning.

F. Decision-support Tools

ESMWG Findings:

(F1). Decision support approaches varied among plans, including: no use of explicit decision analysis tools; reliance on negotiations; GIS-based mapping tools; quantitative indices; and explicit decision support tools. Most plans used a suite of decision-support approaches.

(F2). A number of decision-support tools used in planning processes (e.g., MarineMap,

MarZone) help in the assessment of alternatives. No planning effort used benefit-cost analysis to consider whether CMSP is the preferred alternative for spatially managing uses in the marine and coastal environments. Rather benefit-cost analysis when used was to consider alternative plans for a subset of sectors.

(F3). Non-market economic values (ecosystem services) were rarely explicitly assessed, but the tools to include these values in decision-making are new(er) and growing rapidly

(F4). Risk and uncertainty are implicitly addressed in most of the plans, but only one plan addressed these explicitly.

(F5). Of the plans that explicitly use decision-support tools, only half have a strategy for updating and improving their tools based on monitoring and evaluation.

(F6). Conflict resolution was only addressed in half of the plans and methods for resolution ranged from negotiated agreement among the experts, to formal steps established by international conventions, to resolution through permitting.

ESMWG Recommendations:

(F1). NOAA and the NOC should provide guidance on best practices for the use of decision support tools; there is a growing body of lessons learned and best practices available from recent planning efforts.

NOAA Response: NOAA agrees that regional CMSP can be greatly enhanced by the use of appropriate, user-friendly decision support tools (DSTs). The Framework calls for NOC agencies to support, and RPBs to apply where applicable, a variety to DSTs to help regional planners assess ecosystems and to explore the implications of alternative ocean use scenarios (Attachment 2). NOAA – through its cross-agency CMSP Theme Teams – is developing a web-based toolkit of information on state-of-the-art DSTs applicable to all aspects of CMSP. This DST Toolkit will reside, ultimately, on the NOC’s National Information Management System (ocean.data.gov) and provide open access to both data and tools needed to conduct CMSP.

(F2). NOAA and the NOC should support the development of decision support tools and in particular the connections among tools; most plans used more than one tool.

NOAA Response: NOAA agrees with the fundamental importance of DSTs for CMSP and other approaches to spatial planning and management of the nation’s oceans. NOAA has developed a number of DSTs that are directly applicable to CMSP, including the Multipurpose Marine Cadastre (MMC), the Integrated Ecosystem Assessments (IEAs) and the Environmental Response and Management Application (ERMA). Further, NOAA is actively engaged with external partners to enhance existing DSTs and to strengthen the linkages and interoperability among them. Further, we are working internally to adapt and develop new approaches to incorporating NOAA data and issues into regional spatial

analyses. The scope and pace of this work is largely resource-dependent, particularly as it relates to supporting external partnerships.

(F3). NOAA and the NOC should support the development of more explicit trade-off analysis tools.

NOAA Response: NOAA agrees that CMSP would benefit from enhanced DSTs to analyze and visualize the components and implications of trade-offs among potentially competing ocean uses. To this end, we are currently working with external partners and are targeting internal expertise in the natural and social sciences to more clearly and objectively identify the specific requirements for major ocean uses and thus the dimensions across which they may conflict. This work, especially the external partnerships, is largely resource-dependent.

(F4). NOAA and the NOC should support the training and development of researchers who can use and develop these tools.

NOAA Response: NOAA agrees that researchers and managers involved in regional CMSP would benefit from targeted training in the use of DSTs. Resources permitting, NOAA will identify this need as a priority for relevant training and education programs like Sea Grant and the Coastal Services Center, working in partnership with external organizations with comparable expertise and aims.

G. Monitoring and Performance Measures

ESMWG Findings:

(G1). The successful end result of MSP efforts ranged from the development of a structured process for future spatial management decisions to the identification and implementation of these spatial management decisions.

(G2). The majority of the plans do not have formal metrics of success. The proximate criteria for success are adoption of the plan and application of its policies for spatial decision-making. However the ultimate criteria for success are whether ecological, social, and economic outcomes are improved with CMSP.

(G3). A number of plans that address development uses (e.g., mining, alternative energy) were designed at least in part to reduce conflicts and ease permitting. These outcomes could be explicitly measured.

(G4). Most of the plans incorporate monitoring and most of these plans will incorporate feedback from monitoring into plan revisions but none of the plans specify *how* management should respond to monitoring. .

ESMWG Recommendations (Rec. G1 and G2 are combined):

(G1). NOAA and the NOC should require plans to explicitly state what constitutes success.

(G2). NOAA and the NOC should require plans to develop formal metrics of success.

NOAA Response: NOAA agrees that it will be critical for CMS plans to contain explicit and measurable objectives with clearly articulated metrics for assessing effectiveness over time. As called for in the NOP, the draft CMSP SAP will contain national level objectives and performance measures to track progress at the federal level in both socioeconomic and ecological terms. These national objectives will be used to inform the RPBs as they design and set their own regional specific objectives and metrics to measure their success.

(G3) NOAA and the NOC should identify permitting time and costs as useful metrics for gauging the results of CMSP efforts; they should undertake efforts now to gather information on some current permitting times and costs ahead of regional CMSP efforts. This effort would clearly indicate to stakeholders that CMSP aims to address economic concerns in addition to ecological ones.

NOAA Response: NOAA agrees that identification of opportunities to promote permitting efficiencies are a practical starting point for measuring progress towards CMSP outcomes related to cost and time savings.

(G4) NOAA and the NOC should develop performance metrics for social and economic outcomes in addition to ecological outcomes of CMSP.

NOAA Response: NOAA agrees that the human dimension of CMSP is as important to understand as the ecological. Other socioeconomic metrics, however, are considerably more complex and are subject to external factors beyond the CMSP process. In order to pursue such metrics it will likely require additional research and use of tiered milestones.

(G5). NOAA and the NOC should require that feedback from the monitoring of success metrics be utilized for plan revision.

NOAA Response: The Framework calls for monitoring and assessment of metrics of success, and for their application in future adaptive management of the CMS plans. The exact analytical approach, timelines and decision-making mechanisms are deferred to the RPBs to decide and implement.

ATTACHMENT 2

Coverage of Issues Relevant to SAB Recommendations in the CMSP Framework and Executive Order 13547

Following are references to sections of the Ocean Policy Task Force (OPTF) Final Recommendations and/or Executive Order that pertain to specific recommendations made by the SAB's ESMWG.

OBJECTIVES

(A1). NOAA and the NOC should facilitate the crafting of clear objectives and identify a clear process to produce them (e.g., Gleason et al. 2010);

- (Final Recommendations, p. 55)
 - Identify Regional Objectives: Each region would define and agree upon a set of specific and measurable regional objectives that provide clear direction, outcomes, and timeframes for completion. These regional objectives would be consistent with the national goals and principles identified in this framework and with any national objectives the NOC has articulated for purposes of CMSP. These objectives would serve as a statement of purpose and need for action to guide the planning process and eventual development of an ecosystem-based, comprehensive, integrated CMS Plan.
- (Final Recommendations, pp. 58-9)
 - A completed CMS Plan would contain the following essential elements in order to ensure national consistency across regions and certification by the NOC
Scientific data, information, and knowledge, as well as relevant traditional knowledge would underpin each of these essential elements... Objectives, Strategies, Methods, and Mechanisms for CMSP: This section would describe the regional objectives and proposed strategies, methods, and mechanisms for CMSP for the region. It would provide the analysis, evaluation of options, and the basis for the conclusions made in the CMS Plan. It would describe the spatial determinations for conservation and uses, at the appropriate scale, and include any necessary visual representations. The CMS Plan would describe the strategies, methods, and mechanisms for integrated or coordinated decision-making, including addressing use conflicts. The CMS Plan would further describe the continuing processes by which implementation would proceed, including mechanisms to ensure that individual partner and collaborative decision-making are reviewed for consistency with plan priorities and objectives. The CMS Plan would describe continued opportunities for stakeholder and public engagement. It would provide the flexibility needed to accommodate activities and operations in preparation for and response to disasters, emergencies, and similar incidents. The CMS Plan would also consider a regional process for requesting variances and amendments.
- (Final Recommendations, pp. 70-1)

- The NOC would then begin development of a strategic action plan to address specific areas that require additional consideration, analysis, and elaboration. The strategic action plan would be released in six to nine months and include: national objectives; national performance measures...(70)
- *National Objectives and National Performance Measures* As part of the strategic action plan, the NOC would establish national objectives for CMSP consistent with, and in furtherance of, the National Policy, CMSP goals and principles, and other relevant national goals and priorities. These national objectives would serve as additional direction for the development of regional objectives and to help to maintain national and regional consistency of CMSP. Along with these objectives, national outcome-based performance measures would be established to help define success and measure results. (71)

(A2). NOAA and the NOC should support the development of regional science and stakeholder teams that can help develop operational objectives and data needs early in the CMSP process;

- (Final Recommendations, p. 56)
 - Consult Scientists and Technical and Other Experts: The regional planning body would consult scientists, technical experts, and those with traditional knowledge of or expertise in coastal and marine sciences and other relevant disciplines throughout the process to ensure that CMSP is based on sound science and the best available information. To this end, the regional planning body would establish regional scientific participation and consultation mechanisms to ensure that the regional planning body obtains relevant information. Such consultation could take the form of regional private-public technology and science partnerships. In addition, the regional planning bodies would work with existing science and technical entities, such as the regional ocean observation organizations, and other organizations with relevant physical, biological, ecological, and social science expertise. Scientific participation and consultation mechanisms would provide scientific and technical oversight and support to the regional planning body throughout the CMS Plan development, implementation, and evaluation phases.
- (Final Recommendations, pp. 70-1, 73)
 - *Develop and Implement Public and Stakeholder Engagement* Early and meaningful steps to facilitate public and stakeholder outreach and education regarding CMSP and its implementation are vital to advance national CMSP efforts. As discussed above, the NOC would ensure substantial opportunity for public participation as it develops all nine strategic action plans, including the strategic action plan for coastal and marine spatial planning. Also, to better inform all participants and the public, the NOC would work with Federal agencies and the regional planning bodies, when established, to guide the drafting and production of educational materials, guidebooks, manuals, and other materials. These materials would be developed keeping in mind that the content should reflect the issues, language, and methods that would be meaningful in a particular region. These materials would include a glossary of key CMSP terms in order to reduce potential misunderstandings that could result in an inconsistent or ineffective CMSP process. The NOC, in coordination with the regional planning

bodies, when established, would hold additional informational workshops for stakeholders to discuss the CMSP process and potential ways stakeholder participation would take place. Additional stakeholder engagement would be conducted by the regional planning bodies throughout the CMSP process.

- *Develop Stakeholder and Scientific Participation Process* (Months 6-18) During Phase I, each regional planning body would begin to identify key stakeholders, scientific and technical experts, nongovernmental organizations, and other partners to engage in the CMSP process. A formal mechanism for regular stakeholder, scientific, and technical input would be established and incorporated into the process. Additionally, regional planning bodies, in conjunction with the NOC, would establish procedures and methods to ensure transparency, participation, and collaboration in the planning process, such as public meetings, document availability, and timely public notification.
- (E.O. 13547, Sec. 8)
 - Sec. 8. Regional Advisory Committees. The lead Federal department, agency, or office for each regional planning body established for the development of regional coastal and marine spatial plans, in consultation with their nonfederal co-lead agencies and membership of their regional planning body, shall establish such advisory committees under the Federal Advisory Committee Act, 5 U.S.C. App., as they deem necessary to provide information and to advise the regional planning body on the development of regional coastal and marine spatial plans to promote the policy established in section 2 of this order.

(A3). NOAA and the NOC should facilitate the development of operational objectives with indicators and reference levels as part of the regional planning process.

- (Final Recommendations, p. 64)
 - *Certification by the NOC for National Consistency* The NOC would review each regional CMS Plan to ensure it is consistent with the National Policy, CMSP goals and principles as provided in this framework, any national objectives, performance measures, or guidance the NOC has articulated, and any other relevant national priorities. The NOC's review would ensure that the CMS Plans include all the essential elements described in this framework. The NOC would also consider the CMS Plan's compatibility with an adjacent region's CMS plan regarding issues that cross regional boundaries. Certification by the NOC would not occur until after release of the final CMS Plan for 30 days of public notice. The NOC would review and make a decision on certification within six months of receipt of the CMS Plan. If a regional CMS Plan does not meet certification requirements, the NOC would work with the regional planning body to address issues with the CMS Plan and could allow for approval of those parts of a CMS Plan that do meet such requirements. Upon certification by the NOC, a decision document adopting the CMS Plan would be co-signed by senior State officials (e.g., Governors), tribal representatives, as appropriate, and senior officials of the Federal agencies represented on the regional planning body. Upon signature by the partners, the CMS Plan would be considered "in effect" and implementation would begin.
- (Final Recommendations, p. 73-4)

- Phase II (9-24 months) Building on Phase I's initial foundational steps of CMSP implementation, Phase II focuses on building capacity and testing specific issues or elements of the process. Initial Regional Steps (Months 9-18) and Work Plan Development (Months 12-24) During Phase II, the NOC would enable the regions to focus during the initial work plan development period on those issues that are of highest regional priority. In this way, these early steps in each region can serve as a test for the other regions for specific issues. For example, a region may select to begin CMSP efforts by organizing, gathering, and analyzing data, whereas another region may select to focus on developing regional CMS Plan objectives. The focus for each region's initial steps should be agreed upon after the capacity assessment is completed at the end of Phase I. After the initial regional steps are underway, the regional planning bodies would begin development of a full CMSP work plan, as detailed in Section X of this Part. In development of its work plan, each regional planning body should integrate the lessons learned from its and other regions' initial steps and also consider how to best integrate relevant ongoing regional planning initiatives.
- *Develop and Carry Out CMSP Process and Provide Feedback from Initial Regional Steps* (Months 18 and beyond) After the initial regional steps are undertaken by each region, the regional planning bodies would transition into Phase III, developing and carrying out a CMSP process using the initial regional steps and the work of the NOC as a foundation. There is recognition that some regions' planning processes might be longer or more complicated than others. The timeframes for completion of the CMSP process are intended to be flexible to account for differing levels of resources, capacity, and other factors. During this process, regional planning bodies, in coordination with the NOC, would develop a mechanism for providing feedback and status reports to the NOC and appropriate State and tribal leadership to share lessons learned, best practices, and ensure routine and frequent communication nationally and among the regions. The regional planning bodies, in coordination with the NOC, would also ensure consistency, address questions and concerns, and adaptively manage the effort as appropriate. Although there would be flexibility in the framework to allow for variable CMSP process timeframes, regional planning bodies are encouraged to have final CMS Plans completed in three years and all regions would be expected to have final CMS Plans certified and implementation started by mid-2015. These final CMS Plans are intended to be iterative and are expected to be modified through the adaptive process beyond 2015.

SCOPE

(B1). NOAA and the NOC should recognize the trade-offs between costs and comprehensiveness.

- (Final Recommendations, p. 43)
 - Scientific understanding and information are central to achieving an integrated and transparent planning process. Natural and social sciences can inform decisions about how to achieve societal objectives from the Nation's ocean, coastal, and Great Lakes waters, both now and into the future, while maintaining

ecosystem integrity. Built on this foundation of sound science, this new system for planning should facilitate maintenance of essential ecosystem services, encourage compatible uses, minimize conflicts, evaluate tradeoffs in an open and transparent manner, and include significant and meaningful stakeholder involvement.

- (Final Recommendations, pp. 48-9)
 - In order to achieve the national goals of CMSP, planning efforts are to be guided by the following principles: ...
 - 5. CMS Plans and the standards and methods used to evaluate alternatives, tradeoffs, cumulative effects, and sustainable uses in the planning process would be based on clearly stated objectives.
 - 7. CMSP would be guided by the precautionary approach as reflected in Principle 15 of the Rio Declaration, “Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”
- (Final Recommendations, p. 57)
 - This analysis would form the basis of the Regional Assessment described in the Essential Elements of the CMS Plan below. The regional planning body would identify and leverage existing approaches and efforts to collect information as well as clearly identify where there are gaps in data and information and what assumptions are made in the assessments, forecasts, and analyses to ‘compensate’ for lack of information and data.

(B2). Once regions make decisions about the number of objectives and planning areas, NOAA and the NOC should support robust and thorough data collection and stakeholder engagement across the selected scope even if these steps are especially demanding of time and resources.

- (Final Recommendations, pp. 66-9)
 - XV . *Scientific Knowledge and Data Integration, Research, Management, and Access* CMSP is fundamentally science-based and adaptive in response to new evidence, technology, and understanding. Essential to CMSP are scientific knowledge and data, collectively referred to here as information. Information is necessary to comprehensively, consistently, and continually investigate, assess, forecast, and analyze human uses, ecosystem conditions, management alternatives, information and data gaps, and CMS Plan effectiveness. Reflecting our long history of ocean science and exploration, the United States holds vast stores of natural and social science information about ocean, coastal, and Great Lakes ecosystems and their uses which can immediately be used to begin informing CMS Plan development. However, data and knowledge gaps, particularly regarding the complexities of these ecosystems, human use patterns, and the relationship between the two, indicate the need for continuing research to supplement existing information, especially in the context of changing environmental conditions and societal needs. Additional CMSP research will provide new information, including on specific and cumulative effects, ecosystems processes and resiliency, and the assessment and valuation of ecosystem services.

- Relevant and credible information is critical for successful planning and, in turn, must be accessible to Federal, State, and local managers, tribes, academics, the private sector, and the public. A robust national information management system dedicated to coastal and marine scientific data and information products is required to meet the diverse data and application requirements of CMSP, and the varying technical capabilities of users. The NOC, working with the regional planning bodies, would create a system that is compatible with existing Federal information systems, captures relevant Federal information resources, has effective governance and accountability across agencies, and preserves data confidentiality, where appropriate. The NOC would leverage and build upon existing national data systems and initiatives (e.g., ocean observation), where appropriate. Within this construct, Federal agencies and the other regional partners would make relevant data, metadata, and derived products available and web accessible using recognized national and international standards and protocols to the extent permitted by law and regulation. In addition, State agencies, tribes, academia, the private sector, stakeholders, and other non-governmental sources would be encouraged to make their relevant information and knowledge, including local and traditional knowledge, available through this system. Exceptions would include sensitive but unclassified information that cannot be synthesized and modified into a format that is appropriate for broader distribution, pursuant to CMSP needs and information that is proprietary, statutorily confidential, or classified information. To provide easy user access to agency CMSP-related information, a national information management system with either a central portal or regional portals that connect to CMSP information would be developed. The NOC would identify a Federal lead agency or collaborative entity to manage, implement, and update the CMSP portal(s) and components of the information management system. System interoperability, information exchange, and information and application technologies are intrinsically linked and would be developed and implemented together within the CMSP portal(s). To ensure national consistency, minimum data standards for CMSP information would be adopted and include standards for information quality. All information management and provision activities would be developed and updated with participation from existing and appropriate Federal data centers and initiatives...
- (E.O. 13547, Sec.6(c))
 - (c) Each executive department, agency, and office that is required to take actions under this order shall coordinate and contribute resources, as appropriate, to assist in establishing a common information management system as defined in the Final Recommendations and shall be held accountable for managing its own information assets by keeping them current, easily accessible, and consistent with Federal standards.

(B3). NOAA and the NOC should investigate a variety of different opportunities to support plan development and implementation and should engage private and non-profit organizations.

- (E.O. 13547 Sec.2(b)(i))

- o (b) The United States shall promote this policy by:
- o (i) ensuring a comprehensive and collaborative framework for the stewardship of the ocean, our coasts, and the Great Lakes that facilitates cohesive actions across the Federal Government, as well as participation of State, tribal, and local authorities, regional governance structures, nongovernmental organizations, the public, and the private sector;

(B4). The US planning regions are large compared with existing marine spatial plans; NOAA and the NOC should be supportive of sub-regional planning efforts.

- (Final Recommendations, p. 53)
 - o Furthermore, there would be flexibility to develop sub-regional plans provided that these plans are encompassed in an overarching regional CMS Plan and overseen by the regional planning body. This construct may be particularly useful in the Alaska/Arctic and Pacific Islands Regions given the geographic breadth, the logistical constraints of coordinating resources across a region that spans the international dateline, and that multiple LMEs are encompassed by the Alaska/Arctic Region.

AUTHORITY

(C1). To help ensure the success of CMSP, NOAA and the NOC should strive to increase the strength of the CMSP legal mandate.

- (Final Recommendations, p.62)
 - o CMSP under this framework would not vest the NOC or regional planning bodies with new or independent legal authority to supersede existing Federal, State, or tribal authorities. Rather, the NOC would facilitate the development of CMSP and provide national context and guidance within which bottom-up, flexible, regionally-based CMS Plans would be developed and implemented. Regional planning bodies would function as convening and planning bodies that comprise Federal, State, and tribal representatives responsible for implementing existing authorities to create a process, and ultimately a plan, to better apply such existing authorities to achieve agreed upon regional goals and objectives. In and of themselves, CMS Plans, would not be regulatory or necessarily constitute final agency decision-making. However, they are intended to guide agency decision-making and agencies would adhere to the final CMS Plans to the extent possible, consistent with existing authorities, as described in Section XIV of this Part. Adherence to and implementation of the CMS Plan would be the result of a multi-year planning process by which regional planning body members would openly discuss their respective legal authorities, requirements, and processes and how they can be better applied in the CMSP context. Once a CMS Plan is approved, Federal, State, and tribal authorities would implement them through their respective legal authorities. Thus, for example, State permitting decisions remain within the purview and are the responsibility of the relevant State agency, not the NOC, regional planning body, or any of its other members. Also, as described

earlier, disputes regarding a specific agency's decisions pursuant to its statutory authority would be addressed through the various procedures and mechanisms available under that authority or other relevant authorities (e.g., Administrative Procedure Act).

(C2). NOAA and the NOC should preferentially support regions that offer clear planning timelines and deadlines.

- (Final Recommendations, pp.69-70)
 - Implementation of this framework would occur in multiple phases through the NOC and among the regions. As a first step, the NOC would undertake initial actions to develop and build a foundation for the national CMSP efforts. Concurrently, the NOC would directly engage States and tribes to discuss cooperative strategies to move forward with CMSP. Recognizing the extensive scope of the task of developing and implementing CMSP, it is important for Federal, State, tribal, and other partners to prioritize efforts in this initial implementation period. Each of the regions could have different priorities and be at varying stages in the development of the data, analyses, and the relevant issues for policy-makers. With these differences in mind, the phased approach outlined below would enable the NOC and the regions sufficient time to develop capacity, build on existing efforts, and leverage and gain efficiencies from lessons learned. In order to best achieve the completion of CMS Plans in all regions by 2015, the NOC would have the flexibility to make minor adjustments or modifications to this implementation schedule.

(C3). NOAA and the NOC should partner with other federal, state, academic, private, and nonprofit agencies and institutions to coordinate the development and implementation of CMSP.

- (Final Recommendations, pp.47, 56)
 - *V. Public and Stakeholder Engagement* In addition to coordination and cooperation among all levels of government, robust public and stakeholder engagement is integral to a successful CMSP process. Given the multi-objective nature of CMSP it is critical to ensure there are numerous opportunities for a broad range of input to gain a better understanding of the human uses and influences on the planning area, and expectations, interests, and requirements for the future. Including a broad range of interests throughout the planning and implementation of CMSP is necessary to strengthen mutual and shared understanding about relevant problems and opportunities and will better inform the process and its outcomes. (47)
 - *Engage Stakeholders and the Public at Key Points throughout the Process:* The regional planning body would ensure there is frequent and regular stakeholder engagement throughout all phases of the CMSP process, including development, adoption, implementation, evaluation, and adaptive management phases. To better ensure all concerns and ideas are considered, stakeholder engagement should be emphasized with those most impacted (or potentially impacted) by the planning process. Considerations should also be given to ensuring inclusion of underserved communities. Regions would establish an inclusive and transparent process for stakeholder participation (or, if applicable, utilizing an existing process) that

ensures engagement with a representative balance of major social, cultural, economic, environmental, recreational, human health, and security interests. The regional planning body should also identify previous stakeholder input to regional or State CMSP efforts including the existing documentation on their input and needs. Stakeholder and public participation would be sought through a variety of robust participatory mechanisms that may include, but are not limited to, workshops, town halls, public hearings, public comment processes, and other appropriate means. Stakeholder and public engagement would be consistent with existing requirements for public notice and input under applicable laws. Additionally, regional planning bodies would operate with the maximum amount of transparency, participation, and collaboration to the extent permissible by law. The NOC would provide guidance on such operating procedures including methods that ensure effective public and stakeholder participation, encourage diversity of opinions, and contribute to the accountability of the CMSP process (e.g., public meetings, document availability, and timely public notification). (56)

DATA

(D1). NOAA and the NOC should require a clear timeline and workplan for all phases of the MSP effort with benchmarks prior to funding. In particular, timelines should be set and adhered to for data gathering and compilation to allow sufficient time in the planning effort for analysis and decision-making.

- (Final Recommendations, pp.69-74)
 - Implementation of this framework would occur in multiple phases through the NOC and among the regions. As a first step, the NOC would undertake initial actions to develop and build a foundation for the national CMSP efforts. Concurrently, the NOC would directly engage States and tribes to discuss cooperative strategies to move forward with CMSP. Recognizing the extensive scope of the task of developing and implementing CMSP, it is important for Federal, State, tribal, and other partners to prioritize efforts in this initial implementation period. Each of the regions could have different priorities and be at varying stages in the development of the data, analyses, and the relevant issues for policy-makers. With these differences in mind, the phased approach outlined below would enable the NOC and the regions sufficient time to develop capacity, build on existing efforts, and leverage and gain efficiencies from lessons learned. In order to best achieve the completion of CMS Plans in all regions by 2015, the NOC would have the flexibility to make minor adjustments or modifications to this implementation schedule...

(D2) NOAA and the NOC should recognize and budget sufficient time and capacity for data gathering and compilation.

- Work plans and timelines will be reviewed and approved by the NOC.

(D3). NOAA and the NOC should ensure that scientific and technical expertise is available to the

CMSP processes at all stages. This expertise should include the development of science advisory boards at the,

- National level - who should evaluate and disseminate technical guidance on elements such as types of data to include and their resolution and how to manage data portals and the connections between them;
- (Final Recommendations, p.67)
 - CMSP information that is collected, produced, or disseminated by Federal agencies, including information obtained from non-Federal sources, would meet government-wide information quality standards, and any other additional minimum standards adopted by the NOC.

Regional level - to interpret and apply the guidance identified by the national group of experts, refer needs to the national group as they emerge, and address regional scientific and technical issues as appropriate (e.g. decisions on specific data sets).

- (Final Recommendations, p. 56)
 - Consult Scientists and Technical and Other Experts: The regional planning body would consult scientists, technical experts, and those with traditional knowledge of or expertise in coastal and marine sciences and other relevant disciplines throughout the process to ensure that CMSP is based on sound science and the best available information. To this end, the regional planning body would establish regional scientific participation and consultation mechanisms to ensure that the regional planning body obtains relevant information. Such consultation could take the form of regional private-public technology and science partnerships. In addition, the regional planning bodies would work with existing science and technical entities, such as the regional ocean observation organizations, and other organizations with relevant physical, biological, ecological, and social science expertise. Scientific participation and consultation mechanisms would provide scientific and technical oversight and support to the regional planning body throughout the CMS Plan development, implementation, and evaluation phases.

(D4). NOAA and NOC should ensure that there is a clearly delineated process for data management after initial regional planning efforts.

- (Final Recommendations, p.66 - 9)

(D5). NOAA should provide leadership and guidance in ensuring (i) that there is greater connection among its portals and (ii) that efforts are not duplicated among portals it supports.

- (E.O. 13547 Sec.6(c))
 - (c) Each executive department, agency, and office that is required to take actions under this order shall coordinate and contribute resources, as appropriate, to assist in establishing a common information management system as defined in the Final Recommendations and shall be held accountable for managing its own information assets by keeping them current, easily accessible, and consistent with Federal standards.

PARTICIPANTS

(E1). NOAA and NOC should provide basic guidance to regions on stakeholder roles, responsibilities, and engagement strategies. These should be defined early in the process to avoid confusion.

- (Final Recommendations, p.56)
 - *Engage Stakeholders and the Public at Key Points throughout the Process:* The regional planning body would ensure there is frequent and regular stakeholder engagement throughout all phases of the CMSP process, including development, adoption, implementation, evaluation, and adaptive management phases. To better ensure all concerns and ideas are considered, stakeholder engagement should be emphasized with those most impacted (or potentially impacted) by the planning process. Considerations should also be given to ensuring inclusion of underserved communities. Regions would establish an inclusive and transparent process for stakeholder participation (or, if applicable, utilizing an existing process) that ensures engagement with a representative balance of major social, cultural, economic, environmental, recreational, human health, and security interests. The regional planning body should also identify previous stakeholder input to regional or State CMSP efforts including the existing documentation on their input and needs. Stakeholder and public participation would be sought through a variety of robust participatory mechanisms that may include, but are not limited to, workshops, town halls, public hearings, public comment processes, and other appropriate means. Stakeholder and public engagement would be consistent with existing requirements for public notice and input under applicable laws. Additionally, regional planning bodies would operate with the maximum amount of transparency, participation, and collaboration to the extent permissible by law. The NOC would provide guidance on such operating procedures including methods that ensure effective public and stakeholder participation, encourage diversity of opinions, and contribute to the accountability of the CMSP process (e.g., public meetings, document availability, and timely public notification).

DECISION SUPPORT TOOLS

(F1). NOAA and the NOC should provide guidance on best practices for the use of decision support tools; there is a growing body of lessons learned and best practices available from recent planning efforts.

- (Final Recommendations, p.68)
 - Additionally, nationally consistent, derived data products, ranging from consistent habitat maps as data layers to specialized decision-support tools, would be developed to provide a consistent framework for regional assessments and alternative future spatial management scenarios. The NOC may provide further guidance for using such information in decision-making, for example, how to decide which areas are of particular ecological importance or value. Designed or

adapted specifically for CMSP, these science-based decision-support tools, including models, assessments, and visualization capabilities...

(F2). NOAA and the NOC should support the development of decision support tools and in particular the connections among tools; most plans used more than one tool.

- (Final Recommendations, pp.68 - 9)
 - Additionally, nationally consistent, derived data products, ranging from consistent habitat maps as data layers to specialized decision-support tools, would be developed to provide a consistent framework for regional assessments and alternative future spatial management scenarios. The NOC may provide further guidance for using such information in decision-making, for example, how to decide which areas are of particular ecological importance or value. Designed or adapted specifically for CMSP, these science-based decision-support tools, including models, assessments, and visualization capabilities...

(F3). NOAA and the NOC should support the development of more explicit trade-off analysis tools.

- (Final Recommendations, pp.68 - 9)
 - Additionally, nationally consistent, derived data products, ranging from consistent habitat maps as data layers to specialized decision-support tools, would be developed to provide a consistent framework for regional assessments and alternative future spatial management scenarios. The NOC may provide further guidance for using such information in decision-making, for example, how to decide which areas are of particular ecological importance or value. Designed or adapted specifically for CMSP, these science-based decision-support tools, including models, assessments, and visualization capabilities...

(F4). NOAA and the NOC should support the training and development of researchers who can use and develop these tools.

- While not specifically called for in the CMSP Framework or EO, NOAA conducts several programs to develop and train scientists in tools for spatial planning.

MONITORING AND PERFORMANCE MEASURES

(G1). NOAA and the NOC should require plans to explicitly state what constitutes success.

- (Final Recommendations, pp. 59, 71)
 - *Objectives, Strategies, Methods, and Mechanisms for CMSP:* This section would describe the regional objectives and proposed strategies, methods, and mechanisms for CMSP for the region. It would provide the analysis, evaluation of options, and the basis for the conclusions made in the CMS Plan. It would describe the spatial determinations for conservation and uses, at the appropriate scale, and include any necessary visual representations. The CMS Plan would describe the strategies, methods, and mechanisms for integrated or coordinated decision-making, including addressing use conflicts. The CMS Plan would further describe the continuing processes by which implementation would proceed,

including mechanisms to ensure that individual partner and collaborative decisionmaking are reviewed for consistency with plan priorities and objectives. The CMS Plan would describe continued opportunities for stakeholder and public engagement. It would provide the flexibility needed to accommodate activities and operations in preparation for and response to disasters, emergencies, and similar incidents. The CMS Plan would also consider a regional process for requesting variances and amendments. (59)

- *National Objectives and National Performance Measures* As part of the strategic action plan, the NOC would establish national objectives for CMSP consistent with, and in furtherance of, the National Policy, CMSP goals and principles, and other relevant national goals and priorities. These national objectives would serve as additional direction for the development of regional objectives and to help to maintain national and regional consistency of CMSP. Along with these objectives, national outcome-based performance measures would be established to help define success and measure results. (71)

(G2). NOAA and the NOC should require plans to develop formal metrics of success.

- (Final Recommendations, pp. 59, 71)
 - *Objectives, Strategies, Methods, and Mechanisms for CMSP:* This section would describe the regional objectives and proposed strategies, methods, and mechanisms for CMSP for the region. It would provide the analysis, evaluation of options, and the basis for the conclusions made in the CMS Plan. It would describe the spatial determinations for conservation and uses, at the appropriate scale, and include any necessary visual representations. The CMS Plan would describe the strategies, methods, and mechanisms for integrated or coordinated decision-making, including addressing use conflicts. The CMS Plan would further describe the continuing processes by which implementation would proceed, including mechanisms to ensure that individual partner and collaborative decisionmaking are reviewed for consistency with plan priorities and objectives. The CMS Plan would describe continued opportunities for stakeholder and public engagement. It would provide the flexibility needed to accommodate activities and operations in preparation for and response to disasters, emergencies, and similar incidents. The CMS Plan would also consider a regional process for requesting variances and amendments. (59)
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(G3). NOAA and the NOC should identify permitting time and costs as useful metrics for gauging the results of CMSP efforts; they should undertake efforts now to gather information on

some current permitting times and costs ahead of regional CMSP efforts. This effort would clearly indicate to stakeholders that CMSP aims to address economic concerns in addition to ecological ones.

- (Final Recommendations, pp.69-70)
 - Implementation of this framework would occur in multiple phases through the NOC and among the regions. As a first step, the NOC would undertake initial actions to develop and build a foundation for the national CMSP efforts. Concurrently, the NOC would directly engage States and tribes to discuss cooperative strategies to move forward with CMSP. Recognizing the extensive scope of the task of developing and implementing CMSP, it is important for Federal, State, tribal, and other partners to prioritize efforts in this initial implementation period. Each of the regions could have different priorities and be at varying stages in the development of the data, analyses, and the relevant issues for policy-makers. With these differences in mind, the phased approach outlined below would enable the NOC and the regions sufficient time to develop capacity, build on existing efforts, and leverage and gain efficiencies from lessons learned. In order to best achieve the completion of CMS Plans in all regions by 2015, the NOC would have the flexibility to make minor adjustments or modifications to this implementation schedule.

(G4). NOAA and the NOC should develop performance metrics for social and economic outcomes in addition to ecological outcomes of CMSP.

- (Final Recommendations, p. 59)
 - **Regional Assessment:** The CMS Plan would include a regional assessment, based on environmental, social, economic, and other necessary data and knowledge, describing the existing and predicted future conditions, uses, and characteristics of the ocean, coastal, or Great Lakes areas covered in the CMS Plan. The regional assessment would include: relevant biological, chemical, ecological, physical, cultural, and historical characteristics of the planning area; ecologically important or sensitive species/habitats/ecosystems; and areas of human activities. The assessment would also include an analysis of ecological condition or health and of cumulative risks as well as forecasts and models of cumulative impacts. The regional assessment would explain the information obtained and analyses conducted during the planning process and how they were used to help determine management decisions and plan alternatives.

(G5). NOAA and the NOC should require that feedback from the monitoring of success metrics be utilized for plan revision.

- (Final Recommendations, pp.59 - 60)
 - *Compliance Mechanisms:* The CMS Plan would specify mechanisms to enhance coordination and cooperation among decision-makers and promote consistency in each agency's interpretation and application of its respective existing laws and regulations used for implementation and enforcement of CMS Plans.

- *Monitoring and Evaluation Mechanisms:* The CMS Plan would specify the monitoring and evaluation mechanisms, including a reporting mechanism, to be employed to assess the effectiveness of the CMS Plan and identify where and when changes need to be considered. As part of monitoring and evaluation, regional planning bodies would define a clear set of regional performance measures to be used to assess whether or not the region is meeting national and regional objectives and goals.

From E.O. 13547:

Sec. 5. Functions of the Council.

(a) The Council shall have the structure and function and operate as defined in the Final Recommendations. The Council is authorized, after the Council's first year of operation, to make modifications to its structure, function, and operations to improve its effectiveness and efficiency in furthering the policy set forth in section 2 of this order.

(b) To implement the policy set forth in section 2 of this order, the Council shall provide appropriate direction to ensure that executive departments', agencies', or offices' decisions and actions affecting the ocean, our coasts, and the Great Lakes will be guided by the stewardship principles and national priority objectives set forth in the Final Recommendations, to the extent consistent with applicable law. The Council shall base its decisions on the consensus of its members. With respect to those matters in which consensus cannot be reached, the National Security Advisor shall coordinate with the Co-Chairs and, as appropriate, the Assistants to the President for Energy and Climate Change, and Economic Policy, and the employee of the United States designated by the Vice President, subject to the limitations set forth in section 9 of this order, to present the disputed issue or issues for decision by the President.

Sec. 6. Agency Responsibilities.

(a) All executive departments, agencies, and offices that are members of the Council and any other executive department, agency, or office whose actions affect the ocean, our coasts, and the Great Lakes shall, to the fullest extent consistent with applicable law:

(i) take such action as necessary to implement the policy set forth in section 2 of this order and the stewardship principles and national priority objectives as set forth in the Final Recommendations and subsequent guidance from the Council; and

(ii) participate in the process for coastal and marine spatial planning and comply with Council certified coastal and marine spatial plans, as described in the Final Recommendations and subsequent guidance from the Council.

(b) Each executive department, agency, and office that is required to take actions under this order shall prepare and make publicly available an annual report including a concise description of actions taken by the agency in the previous calendar year to implement the order, a description of written comments by persons or organizations regarding the agency's compliance with this order, and the agency's response to such comments.

(c) Each executive department, agency, and office that is required to take actions under this order shall coordinate and contribute resources, as appropriate, to assist in establishing a common information management system as defined in the Final Recommendations and shall be held accountable for managing its own information assets by keeping them current, easily accessible, and consistent with Federal standards.

(d) To the extent permitted by law, executive departments, agencies, and offices shall provide the Council such information, support, and assistance as the Council, through the Co-Chairs, may request.

Sec. 8. Regional Advisory Committees. The lead Federal department, agency, or office for each regional planning body established for the development of regional coastal and marine spatial plans, in consultation with their nonfederal co-lead agencies and membership of their regional planning body, shall establish such advisory committees under the Federal Advisory Committee Act, 5 U.S.C. App., as they deem necessary to provide information and to advise the regional planning body on the development of regional coastal and marine spatial plans to promote the policy established in section 2 of this order.